

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In re Application of: Vered HORNIK et al.

Confirmation No.: 3691

Application No.: 09/734,583

Patent No.: 6,930,088 B2

Filing Date: December 13, 2000

Patent Date: August 16, 2005

For: CONFORMATIONALLY CONSTRAINED

Attorney Docket No.: 87534-3000

BACKBONE CYCLIZEN SOMATOSTATIN

ANALOGS

REQUEST FOR CERTIFICATE OF CORRECTION UNDER 37 C.F.R. § 1.323

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

Patentees hereby respectfully request the issuance of a Certificate of Correction in connection with the above-identified patent. The corrections are listed on the attached Form PTO-1050. The corrections requested are as follows:

Column 17:

Certificate

Lines 5-7, please replace Formula No. 13 with the following:

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of Correction

Lines 37-39, please replace Formula No. 14 with the following:

$$R^4 - Cys - R^6 - R^7 - (D)Trp - Lys - R^{10} - R^{11} - NR^{12} - X$$

$$(CH_2)_m - Y - (CH_2)_n$$

Column 49:

Lines 40-42, please replace formula 13 with the following:

Cys-R⁶-R⁷- (D)Trp-Lys-R¹⁰-R¹¹-NR¹²-X
$$(CH_2)_m-Y-(CH_2)_n$$

The requested changes are to correct errors of a clerical or typographical nature and do not involve changes that would constitute new matter or require reexamination. In particular, the point at which the bridge is connected to the peptide backbone has been changed to the nitrogen atom of the R¹² amino acid in the specification and claim 9. Support for this change can be found throughout the specification and examples in the description of the compounds that are covered by the correct formula as well as in the priority document.

A fee of \$100 is believed to be due for this request. Please charge the required fees to Winston & Strawn LLP Deposit Account No. 50-1814. Please issue a Certificate of Correction in due course.

Respectfully submitted,

8-17-07

Date

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212-294-3311

UNITED STATES PATENT AND TRADEMARK OFFICE **CERTIFICATE OF CORRECTION**

PATENT NO.:

6,930,088 B2

Page 1 of 1

APPLICATION NO.: 09/734,583

DATED:

August 16, 2005

INVENTOR(S):

Hornik et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 17:

Lines 5-7, replace Formula No. 13 with the following:

Lines 37-39, replace Formula No. 14 with the following:

$$R^4 - Cys - R^6 - R^7 - (D)Trp - Lys - R^{10} - R^{11} - NR^{12} - X$$

$$(CH_2)_m - Y - (CH_2)_n$$

Column 49:

Lines 40-42, replace Formula No. 13 with the following:

Cys-R⁶-R⁷-(D)Trp-Lys-R¹⁰-R¹¹-NR¹²-X
$$(CH_2)_m-Y-(CH_2)_n$$

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Another preferred embodiment has the general formula:

Formula No. 13

wherein m and n are 1 to 5;

X designates a terminal carboxy acid, amide or alcohol group;

R⁶ is (D)- or (L)-Phe or Tyr;

 R^7 is (D)- or (L)-Trp, (D)- or (L)-Phe, (D)- or (L)-1Nal or $_{15}$ (D)- or (L)-2Nal, or Tyr;

R¹⁰ is Thr, Gly, Abu, Ser, Cys, Val, (D)- or (L)-Ala, or (D)- or (L)-Phe;

R¹¹ is (D)- or (L)-Phe or (D)- or (L)-Ala;

R¹² is Gly, Val, or (D)- or (L)-Phe; and

Y² is thioether, thioester or disulfide.

Preferably:

R6 is Phe:

R⁷ is Trp;

R10 is Thr;

R¹¹ is Phe;

R12 is Gly; and

Y² is disulfide.

Another preferred embodiment has the general formula:

Formula No. 14

wherein m and n are 1 to 5;

X designates a terminal carboxy acid, amide or alcohol group;

R⁴ is (D)- or (L)-Phe or Tyr;

R⁶ is (D)- or (L)-Phe or Tyr;

R⁷ is (D)- or (L)-Trp,(D)- or (L)-Phe, (D)- or (L)-1Nal or

(D)- or (L)-2Nal, or Tyr;

R¹⁰ is Thr, Gly, Abu, Ser, Cys, Val, (D)- or (L)-Ala, or (D)- or (L)-Phe;

R¹¹ is (D)- or (L)-Phe or (D)- or (L)-Ala;

R¹² is Gly, Val, or (D)- or (L)-Phe or is absent; and

Y² is thioether, thioester or disulfide.

Preferably:

R4 is (D)Phe;

R⁶ is Phe;

R⁷ is Trp;

R10 is Thr;

R¹¹ is Phe;

R12 is Gly; and

Y² is disulfide.

Another more preferred embodiment has the general formula:

Formula No. 15

wherein meand n are 1 to 5;

X designates a terminal carboxy acid, amide or alcohol group;

R⁵ is (D)- or (L)-Phe or (D)- or (L)-Ala;

R⁷ is (D)- or (L)-Trp,(D)- or (L)-Phe, (D)- or (L)-1Nal or (D)- or (L)-2Nal, or Tyr;

R¹⁰ is Thr, Gly, Abu, Ser, Cys, Val, (D)- or (L)-Ala, or (D)- or (L)-Phe;

R¹² is Gly, Val, (D)- or (L)-Phe or is absent;

R¹³ is (D)- or (L)-Phe or (D)- or (L)-Ala; and

Y² is amide, thioether, thioester or disulfide.

Preferably:

R⁵ is Phe; 25

R⁷ is Phe;

R10 is Thr:

R12 is Gly, Val, or (D)- or (L)-Phe;

R¹³ is Phe; and

Y2 is amide.

Additional preferred embodiments were synthesized using multiple peptide parallel synthesis (under the name TY-30005) comprise heptapeptide and octapeptide analogs 35 in four groups (A-D) as described below.

Group A:

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$$R^5 - NR^6 - R^7 - (D)Trp-Lys-R^{10} - NR^{11} - R^{12} - X$$

$$- (CH_2)_m - Y - (CH_2)_n$$

wherein:

45

m and n are 1 to 5;

X designates a terminal carboxy acid, amide or alcohol group;

R⁵ is absent or is 2Nal:

R⁶ is Phe(N2) or Gly(N3);

R⁷ is (p-Cl)Phe, (p-NH₂)Phe, (p-F)Phe, (p-NO₂)Phe or ChxGly;

R¹⁰ is Val, Gly, or (D)ChxGly;

R¹¹ is Trp(C3) or GlyC2;

R12 is 2Nal or Thr;

Y² is amide, thioether, thioester or disulfide.

Group B:

Formula No. 17

wherein:

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m and n are 1 to 5;

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Formula No.9

 $NR^6 - R^7 - R^8 - Lys - R^{10} - NR^{11} - R^{12} - X$ $(CH_2)_m - Y - (CH_2)_n$ (SEQ ID NO: 7)

wherein:

m and n are 1 to 5;

X designates a terminal carboxy acid, amide or alcohol group;

R⁶ is (D)- or (L)-Phe, or (D)- or (L)-Ala;

R⁷ is Tyr or (D)- or (L)-Phe;

R⁸ is (D)- or (L)-Trp, (D)- or (L)-1Nal, or (D)- or (L)-2Nal;

R¹⁰ is Thr, Val, Ser, or Cys;

R¹¹ is Gly or (D) or (L)-Phe;

R¹² is Thr, GABA, (D)- or (L)-1Nal, (D)- or (L)-2Nal, or (D) or (L)-Phe; and

Y is amide, thioether, thioester or disulfide.

8. The backbone cyclized somatostatin analog of claim 7 25 wherein:

R⁶ is (D)- or (L)-Phe;

R⁷ is Tyr;

R8 is (D)Trp, (D)1Nal, or (D)2Nal;

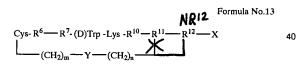
R¹⁰ is Val;

R¹¹ is Gly;

R12 is Thr, 1Nal, or 2Nal; and

Y is amide.

9. The backbone cyclized somatostatin analog of claim 1 35 having the general formula 13:



wherein m and n are 1 to 5;

X designates a terminal carboxy acid, amide or alcohol group;

R⁶ is (D)- or (L)-Phe or Tyr;

R⁷ is (D)- or (L)-Trp,(D)- or (L)-Phe, (D)- or (L)-1Nal or (D)- or (L)-2Nal, or Tyr;

R¹⁰ is Thr, Gly, Abu, Ser, Cys, Val, (D)- or (L)-Ala, or (D)- or (L)-Phe;

R¹¹ is (D)- or (L)-Phe or (D)- or (L)-Ala;

R12 is Gly, Val, or (D)- or (L)-Phe; and

Y is thioether, thioester or disulfide.

10. The backbone cyclized somatostatin analog of claim 9 wherein:

R⁶ is Phe;

R⁷ is Trp;

R¹⁰ is Thr;

R¹¹ is Phe;

R¹² is Gly; and

Y is disulfide.

11. The backbone cyclized somatostatin analog of claim 1 having the general formula 14:

Formula No. 14

$$R^4$$
-Cys - R^6 - R^7 -(D)Trp -Lys - R^{10} - R^{11} - NR^{12} - X
(CH₂)_m- Y -(CH₂)_n-

wherein

m and n are 1 to 5;

X designates a terminal carboxy acid, amide or alcohol group:

R⁴ is (D)- or (L)-Phe or Tyr;

R⁶ is (D)- or (L)-Phe or Tyr;

R⁷ is (D)- or (L)-Trp, (D)- or (L)-Phe, (D)- or (L)-1Nal or (D)- or (L)-2Nal, or Tyr;

R¹⁰ is Thr, Gly, Abu, Ser, Cys, Val, (D)- or (L)-Ala, or (D)- or (L)-Phe;

R¹¹ is (D)- or (L)-Phe or (D)- or (L)-Ala;

R¹² is Gly, Val, or (D)- or (L)-Phe; and

Y is thioether, thioester or disulfide.

12. The backbone cyclized somatostatin analog of claim 11 wherein:

R⁴ is (D)Phe;

R⁶ is Phe;

R⁷ is Trp;

R¹⁰ is Thr:

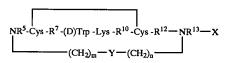
R¹¹ is Phe;

0 R¹² is Gly; and

Y is disulfide.

13. The backbone cyclized somatostatin analog of claim 1 having the general formula 15:

Formula No. 5



wherein

m and n are 1 to 5;

X designates a terminal carboxy acid, amide or alcohol group;

R⁵ is (D)- or (L)-Phe or (D)- or (L)-Ala;

R⁷ is (D)- or (L)-Trp, (D)- or (L)-Phe, (D)- or (L)-1Nal or (D)- or (L)-2Nal, or Tyr;

R¹⁰ is Thr, Gly, Abu, Ser, Cys, Val, (D)- or (L)-Ala, or (D)- or (L)-Phe;

R¹² is Gly, Val, or (D)- or (L)-Phe, or is absent;

R¹³ is (D)- or (L)-Phe or (D)- or (L)-Ala; and

Y is amide, thioether, thioester or disulfide.

14. The backbone cyclized somatostatin analog of claim 13 wherein:

R⁵ is Phe;

R⁷ is Phe;

R¹⁰ is Thr;

R¹² is Gly, Val, or (D)- or (L)-Phe, or is absent;

R¹³ is Phe; and

Y is amide.

15. The backbone cyclized somatostatin analog of claim $_{65}$ 1 having the formula:

Phe(N2)-Tyr-(D)2Nal-Lys-Val-Gly(C2)-Thr-X;

Phe(N2)-Tyr-(D)Trp-Lys-Val-Gly(C2)-2Nal-X;